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Some Physical and Chemical Properties of Functional Turkish Delight Produced with Purple Carrot and Inulin

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Recently, with people's preference for healthy living and the increasing awareness of healthy products, functional foods have also attracted great interest and demand. Therefore, the food industry is conducting innovative research on the formulation of various products. Purple carrots are rich in natural components such as polyphenols, anthocyanins and carotenoids. These components exert antioxidant effects by fighting free radicals in the body [1]. Inulin is a polysaccharide composed of fructose chains and is indigestible. It is naturally obtained from chicory plants and can be used as a sweetener due to its fiber content, prebiotic effect, low calorie content and functional properties [2], as well as a carbohydrate-based fat substitute with properties such as gel formation, texture, viscosity and water retention capacity [3] The main objective of this study is to produce functional Turkish delight based on purple carrot, which is a functional food source, supplemented with prebiotic inulin. A formulation with purple carrot as the main ingredient was created to produce a Turkish delight. In addition, the proportion of corn starch, raisins, hazelnuts and inulin, other ingredients considered to have an influence on the texture and organoleptic properties of the product, were also taken into account. Thanks to purple carrot, a Turkish delight that is considered to be healthier will be obtained, which is colored without using artificial colorants and sweetened while gaining prebiotic properties with inulin. The Turkish delight was also analyzed in terms of total phenolic value, total anthocyanin value and DPPH radical scavenging activity.

Keywords: Turkish delight; functional food; inulin; total phenolic content; total anthocyanin content; DPPH.

References

- [1] M.B. Pérez, S. Carvajal, V. Beretta, F. Bannoud, M.F. Fangio, F. Berli, A. Fontana, M.V. Salomón, R. Gonzalez, L. Valerga, J.C. Altamirano, M. Yildiz, M. Iorizzo, P.W. Simon and P.F. Cavagnaro (2023). Characterization of purple carrot germplasm for antioxidant capacity and root concentration of anthocyanins, phenolics, and carotenoids. *Plants* 12 (9), doi: 10.3390/plants12091796
- [2] N. Tekin (2022). The use of inulin and collagen in jelly type confectionery. (Master's Thesis). Necmettin Erbakan University, Institute of Science and Technology, Department of Food Engineering, Konya.
- [3] A. Demircan, İ. Palabıyık and A.Ş. Demirci (2019). Production of jelly type soft candy with inulin content and component optimization, *Food* **44** (**5**), 759-769.

